

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An optical switching apparatus that receives optical signals from a plurality of input circuits and outputs the optical signals to one of a plurality of output circuits comprising:

 a plurality of input signal adjusting units for adjusting amplitude of the optical signals after being received at the plurality of the input circuits;

 an optical signal switching unit having a plurality of input ports and a plurality of output ports, the plurality of the input ports being connected to said input signal adjusting units and receiving the optical signals after being adjusted in said input signal adjusting units, said optical signal switching unit transferring the optical signal from said input ports to one of the plurality of said output ports;

 a plurality of output signal monitoring units connected to said output ports for monitoring the optical signals at said output ports to generate feedback signals based on the optical signals at said output port; and

 a controlling unit, connected to the plurality of said input signal adjusting units, said optical signal switching unit and said output signal monitoring units for selecting at least one of said input signal adjusting units and at least one of said output signal monitoring units based on a predetermined configuration of the optical switching unit and for controlling said selected one of said input signal control units based on the feedback signals generated by the selected one of said output signal monitoring units.

2. (original) The optical switching apparatus as claimed in claim 1, wherein said output signal monitoring units monitor an amplitude of the optical signals outputted from said optical switching unit to generate the feedback signals.

3. (original) The optical switching apparatus as claimed in claim 1, wherein said output signal monitoring units monitor differential loss among different channels outputted from said optical switching unit to generate the feedback signals.

4. (original) An optical switching apparatus that receives optical signals from a plurality of input circuits and outputs the optical signals to one of a plurality of output circuits, comprising:

a plurality of optical amplifiers for amplifying the optical signals;

an optical switch having a plurality of input ports and a plurality of output ports, said input ports being connected to said optical amplifiers, said optical switch transferring the optical signals received from said optical amplifiers to said output ports;

a plurality of monitor circuits for monitoring the optical signals at each of said output ports of said optical switch and generating feedback signal for said output ports; and

a controller connected to the plurality of said optical amplifiers, said optical switch and said monitor circuits for selecting a particular one of said monitor circuits based on predetermined rules, and a particular one of said optical amplifiers based on the selected one of said monitor circuits and configuration of said optical switch, said controller controlling said selected one of said optical amplifiers based on the feedback signals from the selected one of said monitor circuits.

5. (original) The optical switching apparatus as claimed in claim 4, wherein said output signal monitoring units monitor an amplitude of the optical signals outputted from said optical switching unit to generate the feedback signals.

6. (original) The optical switching apparatus as claimed in claim 4, wherein said output signal monitoring units monitor differential loss among different channels outputted from said optical switching unit to generate the feedback signals

7. (original) An optical switching apparatus that receives optical signals from a plurality of input and outputs the optical signals to one of a plurality of output circuits, comprising:

an optical switch having a plurality of input ports and output ports,

a plurality of input signal adjusting units for adjusting state of the optical signals after being received at the input circuits,

a plurality of output signal monitoring units for monitoring the state of the optical signals outputted to the output circuits, and

a control unit for controlling said optical switch, said input signal adjusting units and said output signal monitoring units;

wherein said input signal adjusting units are respectively connected to said input ports of said optical switch, and

wherein said output signal monitoring units are respectively connected to said output ports of said optical switch, and

wherein said control unit selects one of said output signal monitoring units to obtain the state of the optical signals at said output port,

wherein said control unit selects a particular one of said input signal adjusting units based on a predetermined configuration of said optical switch, and

whereby the selected one of said input signal adjusting units adjusts the state of the optical signals.

8. (original) The optical switching apparatus as claimed in claim 7, wherein said output signal monitoring units monitor an amplitude of the optical signals outputted from said optical switching unit to generate the feedback signals.

9. (original) The optical switching apparatus as claimed in claim 7, wherein said output signal monitoring units monitor differential loss among different channels outputted from said optical switching unit to generate the feedback signals

10. (original) An optical switching apparatus that receives optical signals from a plurality of input circuits and outputs the optical signals to one of a plurality of output circuits, comprising:

an optical switch having a plurality of input ports and output ports,

a plurality of optical amplifiers for amplifying the optical signals received by the input circuits,

a plurality of monitor circuits for monitoring state of the optical signals to be outputted to the output circuits, and

a controller for controlling said optical switch, said optical amplifiers and said monitor circuits,

wherein said optical amplifiers are respectively connected to a corresponding one of said input ports of said optical switch, and the monitor circuits are respectively connected to a corresponding one of said output ports of said optical switch; and

wherein said controller selects one of said monitor circuits to obtain the state of the optical signals at said output ports,

wherein said controller selects a particular one of said optical amplifiers based on a predetermined configuration of said optical switch to amplify the optical signals before the optical signals reach said input ports.

11. (original) The optical switching apparatus as claimed in claim 10, wherein said output signal monitoring units monitor an amplitude of the optical signals outputted from said optical switching unit to generate the feedback signals.

12. (original) The optical switching apparatus as claimed in claim 10, wherein said output signal monitoring units monitor differential loss among different channels outputted from said optical switching unit to generate the feedback signals

13. (new) An optical switching apparatus that receives optical signals from a plurality of input circuits and outputs the optical signals to an arbitrary one of a plurality of output circuits, comprising:

- an optical signal adjusting unit for adjusting the optical signals after being received at the plurality of the input circuits to generate an adjusted optical signal;
- an optical signal switching unit connected to said optical signal adjusting unit for switching the adjusted optical signal to one of a first output port and a second output port;
- a first optical signal monitoring unit connected to said optical signal switching unit for monitoring the optical signal sent to said first output port;
- a second optical signal monitoring unit connected to said optical signal switching unit for monitoring the optical signal sent to said second output port; and
- a controlling unit connected to said optical signal adjusting unit, said optical signal switching unit and said first and second output signal monitoring units for controlling said optical signal adjusting unit based upon an output signal, the output signal being sent from said first optical signal monitoring unit if the optical signal is sent to the first output port, the output signal being sent from said second optical signal monitoring unit if the optical signal is sent to the second output port.

14. (new) The optical switching apparatus according to claim 13 wherein said controlling unit further comprises a memory unit for storing information for said optical signal switching unit, the information being indicative of sending the optical signal to one of a first output port and a second output port, said controlling unit selecting one of said first optical signal monitoring unit and said second optical signal monitoring unit for controlling said optical signal adjusting unit based upon the information.

15. (new) An optical switching apparatus that receives optical signals from a plurality of input circuits and outputs an arbitrary one of the optical signals to an output circuit, comprising:

a first optical signal adjusting unit for adjusting an optical signal from a first input circuit to generate a first adjusted optical signal;

a second optical signal adjusting unit for adjusting an optical signal from a second input circuit to generate a second adjusted optical signal;

an optical signal switching unit connected to said first optical signal adjusting unit and said second optical signal adjusting unit for outputting one of the first adjusted optical signal and the second adjusted optical signal;

an optical signal monitoring unit connected to said optical signal switching unit for monitoring the optical signal from said optical signal switching unit; and

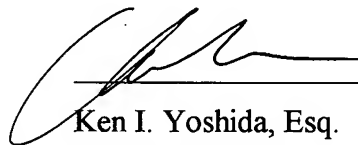
a controlling unit connected to said first optical signal adjusting unit, said second optical signal adjusting unit, said optical signal switching unit and said first and second output signal monitoring units for controlling said first optical signal adjusting unit and said second optical signal adjusting unit based upon an output signal from said optical signal monitoring unit, if the first adjusted optical signal is outputted, said controlling unit controlling said first optical signal based upon the output signal, if the second adjusted optical signal is outputted, said controlling unit controlling said second optical signal adjusting unit based upon the output signal.

16. (new) An optical switching apparatus according to claim 15 wherein said controlling unit further comprises a memory unit for storing information for controlling said optical signal switching unit, the information being indicative of outputting one of the first adjusted optical signal and the second adjusted optical signal, said controlling unit selecting one of said first optical signal adjusting unit and said second optical signal adjusting unit based upon the information.

Conclusion

Based upon the above reasons, the Applicant respectfully submit to the Examiner that the currently pending claims 1 through 16 should be in condition for allowance and respectfully requests a favorable Office Action so indicating.

Respectfully submitted,



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